



Material Safety Data Sheet

MSDS ID NO.: 0158MAR019
Revision date: 02/02/2004

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Product name: MAPLLC Xylene
Synonyms: Xylene; Mixed Xylenes, Dimethyl Benzene; Methyl Toluene
Chemical Family: Aromatic Hydrocarbon
Formula: C₆H₄(CH₃)₂

Supplier:
Marathon Ashland Petroleum LLC
539 SOUTH MAIN STREET
FINDLAY OH 45840

Other information: 419-421-3070
Emergency telephone number: 877-627-5463

2. COMPOSITION/INFORMATION ON INGREDIENTS

Xylene is an mixture of C₈ aromatic petroleum hydrocarbons composed of the three isomers of xylene (ortho, meta & para) and ethylbenzene. Contains trace amounts of toluene, C₉ hydrocarbons and benzene (<50 ppm).

Product information

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
MAPLLC Xylene	1330-20-7	100	= 100 ppm TWA = 150 ppm STEL	= 100 ppm TWA = 150 ppm STEL = 435 mg/m ³ TWA = 655 mg/m ³ STEL	

Component Information

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Xylene	1330-20-7	85	= 100 ppm TWA = 150 ppm STEL	= 100 ppm TWA = 150 ppm STEL = 435 mg/m ³ TWA = 655 mg/m ³ STEL	
Ethyl Benzene	100-41-4	15	= 100 ppm TWA = 125 ppm STEL	= 100 ppm TWA = 125 ppm STEL = 435 mg/m ³ TWA = 545 mg/m ³ STEL	

Notes: The manufacturer has voluntarily elected to reflect exposure limits contained in OSHA's 1989 air contaminants standard in its MSDS's, even though certain of those exposure limits were vacated in 1992.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

XYLENE IS A COLORLESS LIQUID WITH A STRONG HYDROCARBON ODOR. IT IS A VOLATILE AND EXTREMELY FLAMMABLE LIQUID THAT MAY CAUSE FLASH FIRES. KEEP AWAY FROM HEAT, SPARKS AND OPEN FLAME. CONTAINS ETHYLBENZENE THAT HAS PRODUCED CANCER IN LABORATORY ANIMALS. NEVER SIPHON THIS PRODUCT BY MOUTH. IF SWALLOWED, THIS PRODUCT MAY GET SUCKED INTO THE LUNGS (ASPIRATED) AND CAUSE LUNG DAMAGE OR EVEN DEATH. CONTACT MAY CAUSE EYE AND SKIN IRRITATION.

OSHA WARNING LABEL:

DANGER!
FLAMMABLE LIQUID.
MAY CAUSE EYE OR SKIN IRRITATION.
CONTAINS ETHYLBENZENE THAT HAS CAUSED CANCER IN LABORATORY ANIMALS.
ASPIRATION (INADVERTENT SUCTION) OF LIQUID INTO THE LUNGS CAN PRODUCE CHEMICAL PNEUMONIA OR EVEN DEATH.

CONSUMER WARNING LABEL:

A CONSUMER WARNING LABEL IS NOT APPLICABLE FOR THIS PRODUCT.

Inhalation: Overexposure or prolonged exposure to lower concentrations can cause respiratory irritation. Gross overexposure can cause central nervous system depression, producing symptoms of headache, dizziness, narcosis, and muscular incoordination. Excessive product exposure may cause cardiac sensitization.

Ingestion: Liquid ingestion causes severe gastrointestinal pain, abdominal cramps, nausea, vomiting, narcosis and central nervous system depression. Aspiration (inadvertent suction) of liquid into the lungs must be avoided as even small quantities in the lungs can produce chemical pneumonitis, pulmonary edema/hemorrhage and even death.

Skin contact: Prolonged and repeated liquid contact can cause defatting and drying of the skin and can lead to irritation and/or dermatitis.

Eye contact: Liquid contact will produce a burning sensation and irritation in the eye. Eye irritation, photophobia and reversible corneal vacuolization may occur from vapor exposure above the TLV.

Carcinogenic Evaluation:

Product information

Name	IARC:	NTP:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
MAPLLC Xylene 1330-20-7	NE		A4 - Not Classifiable as a Human Carcinogen	

Notes: The International Agency for Research on Cancer (IARC) has concluded that there is inadequate evidence for the carcinogenicity of xylene in either humans or animals (Group 3).

Component Information

Name	IARC:	NTP:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
Xylene 1330-20-7			A4 - Not Classifiable as a Human Carcinogen	
Ethyl Benzene 100-41-4	Monograph 77, 2000		A3 - Animal Carcinogen	

Notes: The International Agency for Research on Cancer (IARC) has concluded that ethyl benzene is possibly carcinogenic to humans (Group 2B).

4. FIRST AID MEASURES

Inhalation:	If affected, move person to fresh air. If breathing is difficult, administer oxygen. If not breathing or if no heartbeat, give artificial respiration or cardiopulmonary resuscitation (CPR). Immediately call a physician.
Skin contact:	Wash with soap and large amounts of water. Remove contaminated clothing. If symptoms or irritation occur, call a physician.
Ingestion:	If swallowed, do not induce vomiting and do not give liquids. Immediately call a physician.
Eye contact:	Flush eyes with large amounts of tepid water for at least 15 minutes. If symptoms or irritation occur, call a physician.
Medical conditions aggravated by exposure:	Preexisting skin, eye and respiratory disorders may be aggravated by exposure to components of this product.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media:	For small fires, Class B fire extinguishing media such as CO ₂ , dry chemical, foam (AFFF/ATC) or water spray can be used. For large fires, water spray, fog or foam (AFFF/ATC) can be used. Fire fighting should be attempted only by those who are adequately trained and equipped with proper protective equipment.
Specific hazards:	This product has been determined to be a flammable liquid per the OSHA Hazard Communication Standard, and should be handled accordingly. Vapors may travel along the ground or be moved by ventilation and ignited by many sources such as pilot lights, sparks, electric motors, static discharge, or other ignition sources at locations distant from material handling. Flashback can occur along vapor trail. For additional fire related information, see NFPA 30 or the North American Emergency Response Guide 130.
Special protective equipment for firefighters:	Avoid using straight water streams. Water may be ineffective in extinguishing low flash point fires, but can be used to cool exposed surfaces. Avoid excessive water spray application. Water spray and foam (AFFF/ATC) must be applied carefully to avoid frothing and from as far a distance as possible. Keep run-off water out of sewers and water sources.
Flash point:	86-93 F
Autoignition temperature:	867-984 F
Flammable limits in air - lower (%):	1.1
Flammable limits in air - upper (%):	7.0
<u>NFPA rating:</u>	<u>HMIS classification:</u>
Health: 2	Health: 2
Flammability: 3	Flammability: 3
Reactivity: 1	Reactivity: 1
Other: -	Special: *See Section 8 for guidance in selection of personal protective equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Eliminate all ignition sources. Advise authorities and National Response Center (800-424-8802) if substance has entered a watercourse or sewer. Notify local health and pollution control agencies, if appropriate. Contain liquid with sand or soil. Recover and return free product to proper containers. Use suitable absorbent materials such as vermiculite, sand, or clay to clean up residual liquids.

7. HANDLING AND STORAGE

Handling:

Comply with all applicable EPA, OSHA, NFPA and consistent state and local requirements. Use appropriate grounding and bonding practices. Store in properly closed containers that are appropriately labeled and in a cool well-ventilated area. Do not expose to heat, open flames, strong oxidizers or other sources of ignition. Do not cut, drill, grind or weld on empty containers since they may contain explosive residues.

Never siphon this product by mouth. Avoid repeated and prolonged skin contact. Exercise good personal hygiene including removal of soiled clothing and prompt washing with soap and water.

Hydrocarbons are basically non-conductors of electricity and can become electrostatically charged during mixing, filtering, pumping at high flow rates or loading and transfer operations. If this charge reaches a sufficiently high level, sparks can form that may ignite the vapors of flammable liquids. Sudden release of hot organic chemical vapors or mists from process equipment operating under elevated temperature and pressure, or sudden ingress of air into vacuum equipment may result in ignitions without the presence of obvious ignition sources. Nozzle spouts must be kept in contact with the containers or tank during the entire filling operation.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT

Engineering measures:	Local or general exhaust required in an enclosed area or with inadequate ventilation.
Respiratory protection:	Approved organic vapor chemical cartridge or supplied air respirators should be worn for exposures to any components exceeding the TLV or STEL. Observe respirator protection factor criteria cited in ANSI Z88.2.
Skin and body protection:	Viton gloves should be used to prevent skin contact.
Eye protection:	No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields.
Hygiene measures:	Use mechanical ventilation equipment that is explosion-proof.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance:	Colorless Liquid
Physical state (Solid/Liquid/Gas):	Liquid
Substance type (Pure/Mixture):	Mixture
Color:	Colorless
Odor:	Sweet Aromatic
Molecular weight:	106.1
pH:	Neutral
Boiling point/range:	280-291 F
Melting point/range:	Not determined.
Decomposition temperature:	Not applicable.
Specific gravity:	0.86 @ 60 F
Density:	7.2 lbs/ gal
Bulk density:	No data available.
Vapor density:	3.7
Vapor pressure:	6-16 mm Hg @ 68 F

Evaporation rate:	No data available.
Solubility:	Negligible
Solubility in other solvents:	No data available.
Partition coefficient (n-octanol/water):	No data available.
VOC content(%):	No data available.
Viscosity:	No data available.

10. STABILITY AND REACTIVITY

Stability:	The material is stable at 70 F, 760 mm pressure.
Polymerization:	Will not occur.
Hazardous decomposition products:	Carbon monoxide, xylene vapors
Materials to avoid:	Strong oxidizers such as nitrates, chlorates, peroxides.
Conditions to avoid:	Sources of heat or ignition.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

Product information

Name	CAS Number	Inhalation:	Dermal:	Oral:
MAPLLC Xylene	1330-20-7	LC50 = 5,267-6,700 ppm 4-6 hrs [Rats/Mice]	LD50 > 4 gm/kg [Rabbits]	LD50 = 2.5 - 10 ml/kg [Rats]

Laboratory animals exposed to high doses of xylene showed evidence of effects in the liver, kidneys, lungs, spleen, heart and adrenals. Exposure of pregnant rats, mice and rabbits during gestation to significant concentrations of xylene produced maternal, fetal and developmental toxicity (skeletal retardation, cleft palate, and wavy ribs) generally at maternally toxic doses. These types of fetotoxic effects have been associated with maternal toxicity. Repeated inhalation of high xylene concentrations have shown impairment of performance abilities (behavioral tests) in animals and man. Xylene produced a mid frequency hearing loss in rats subchronically exposed to high concentrations of xylene.

Gross overexposure or severe poisoning incidents in humans to xylenes has been reported to cause lung, liver, kidney, heart and brain damage as well as neurologic disturbances.

The product contains >1.0% ethyl benzene (EB). Rats and mice exposed to 750 ppm EB for 6 hours/day, 5 days/week for two years developed kidney tumors in male and female rats and lung tumors in male mice and liver tumor in female mice.

12. ECOLOGICAL INFORMATION

Ecotoxicity effects:	The 96 hour LC50 for xylene isomers range from 2.6-28 mg/l in flathead minnow and rainbow trout. The 24 hour ED50 for xylene ranges from 1.0-3.6 mg/l in daphnia. The 192 hour EC50 for xylene ranges from 3.9-4.4 mg/l in algae. This product does not concentrate or accumulate in the food chain.
----------------------	--

13. DISPOSAL CONSIDERATIONS

Cleanup Considerations:

This product as produced is not specifically listed as an EPA RCRA hazardous waste according to federal regulations (40 CFR 261). However, when discarded or disposed of, it may meet the criteria of an "ignitable" hazardous waste (D001). This product could also contain benzene at >0.5 ppm and could exhibit the characteristics of "toxicity" (D018) as determined by the toxicity characteristic leaching procedure (TCLP). This material could become a hazardous waste if mixed or contaminated with a hazardous waste or other substance(s). It is the responsibility of the user to determine if disposal material is hazardous according to federal, state and local regulations.

14. TRANSPORT INFORMATION**49 CFR 172.101:****DOT:**

Transport Information: This material when transported via US commerce would be regulated by DOT Regulations.

Proper shipping name: Xylenes
UN/Identification No: UN 1307
Hazard Class: 3
Packing group: III
DOT reportable quantity (lbs): 1000 pounds.

TDG (Canada):

Proper shipping name: Xylenes
UN/Identification No: UN 1307
Hazard Class: 3
Packing group: III
Regulated substances: 1000 pounds.

15. REGULATORY INFORMATION**Federal Regulatory Information:**

US TSCA Chemical Inventory Section 8(b): This product and/or its components are listed on the TSCA Chemical Inventory.

OSHA Hazard Communication Standard: This product has been evaluated and determined to be hazardous as defined in OSHA's Hazard Communication Standard.

EPA Superfund Amendment & Reauthorization Act (SARA):

SARA Section 302: This product contains the following component(s) that have been listed on EPA's Extremely Hazardous Substance (EHS) List:

Name	CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs
Xylene	NA
Ethyl Benzene	NA

SARA Section 304: This product contains the following component(s) identified either as an EHS or a CERCLA Hazardous substance which in case of a spill or release may be subject to SARA reporting requirements:

Name	CERCLA/SARA - Hazardous Substances and their Reportable Quantities
Xylene	= 100 lb final RQ = 45.4 kg final RQ
Ethyl Benzene	= 100 lb final RQ = 1000 lb final RQ = 45.4 kg final RQ = 454 kg final RQ

SARA Section 311/312: The following EPA hazard categories apply to this product:

Acute Health Hazard.
Fire Hazard.
Chronic Health Hazard.

SARA Section 313: This product contains the following component(s) that may be subject to reporting on the Toxic Release Inventory (TRI) From R:

Name	CERCLA/SARA 313 Emission reporting:
Xylene	= 1.0 percent de minimis concentration
Ethyl Benzene	= 0.1 percent de minimis concentration

State and Community Right-To-Know Regulations:

The following component(s) of this material are identified on the regulatory lists below:

Xylene

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	sn 2014
Pennsylvania Right-To-Know:	environmental hazard
Massachusetts Right-To Know:	Present
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic, Flammable
Michigan critical materials register list:	Annual usage threshold = 100 pounds (all isomers)
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	flammable - third degree
New Jersey - Environmental Hazardous Substances List:	SN 2014
Illinois - Toxic Air Contaminants	Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	= 1 lb Land/Water RQ = 1,000 lbs Air RQ

Ethyl Benzene

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	sn 0851
Pennsylvania Right-To-Know:	environmental hazard
Massachusetts Right-To Know:	Present
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic, Flammable
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	flammable - third degree

New Jersey - Environmental Hazardous
Substances List:
Illinois - Toxic Air Contaminants
New York - Reporting of Releases Part 597 -
List of Hazardous Substances:

SN 0851

Present
= 1 lb Land/Water RQ
= 1,000 lbs Air RQ

Canadian Regulatory Information:

Canada DSL/NDL Inventory: This product and/or its components are listed either on the Domestic Substances List (DSL) or the Non Domestic Substance List (NDL).

Name	Canada - WHMIS: Classifications of Substances:	Canada - WHMIS: Ingredient Disclosure:
Xylene	B2; D2A; D2B	
Ethyl Benzene	B2; D2A; D2B	0.1% (English Item 697, French Item 854)

16. OTHER INFORMATION

Additional Information: No data available.

Prepared by: Craig M. Parker Manager, Toxicology and Product Safety

The information and recommendations contained herein are based upon tests believed to be reliable. However, Marathon Ashland Petroleum LLC (MAPLLC) does not guarantee their accuracy or completeness nor shall any of this information constitute a warranty, whether expressed or implied, as to the safety of the goods, the merchantability of the goods, or the fitness of the goods for a particular purpose. Adjustment to conform to actual conditions of usage maybe required. MAPLLC assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied.

End of Safety Data Sheet